

### **REMARKS**

At the time the Office Action was mailed, claims 1-21 were pending. In affirmation of the telephone conversation on November 2, 2001, between the Examiner and Michael G. Fletcher, and pursuant to the Examiner's restriction requirement, Applicant confirms the election of claims 1-7. Accordingly, Applicants have cancelled claims 8-21 without prejudice for inclusion in a continuing application.

### **Rejections Under 35 U.S.C. § 102**

The Examiner rejected claims 1-7 under 35 U.S.C. § 102(b) as being anticipated by Matsukawa et al. (U.S. Pat. No. 5,518,542). Specifically, the Examiner stated:

Regarding claim 1, Matsukawa et al. discloses (Fig. 12) a holding structure (11a, 11b) having members arranged to hold and rotate the substrate (W) about a first axis, the holding structure (11a, 11b) being coupled to a rotatable member (102), the rotatable member configured to rotate the holding structure (11a, 11b) about a second axis different from the first axis.

Regarding claim 2, Matsukawa et al. discloses (Fig. 12) the members (11a, 11b) comprises a plurality of wedge assemblies (as seen in the figure) configured to rotate the substrate (W) about the first axis.

Regarding claim 3, Matsukawa et al. discloses (Fig. 12) the first axis is disposed generally perpendicular to a flat surface of the substrate and extends generally through an axial center of the substrate.

Regarding claims 4, 7, Matsukawa et al. discloses (Fig. 12) the holding structure comprises two L shaped gripping arms (11a, 11b) arranged to form a single U shape and configured to hold the substrate substantially parallel to the gripping arms.

Regarding claims 5, 6, Matsukawa et al. discloses the U shaped structure is configured to open and close about the perimeter of the substrate (W).

Applicant respectfully traverses these rejections for numerous reasons. Anticipation under section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under section 102, a single reference must teach each and every element or step of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). Thus, if the claims recite even one element not found in the cited reference, the reference does not anticipate the claimed invention.

As a preliminary matter, Applicant has made the following assumptions based on errors in the Examiner's rejection. For the purposes of this response, Applicant has assumed that the Examiner's references to Fig. 12 are actually directed to Fig. 7 (on page 12). Further, for the purposes of this response, Applicant assumes that the Examiner's references to the holding structure (11a, 11b) are actually directed to the holding structure (111a, 111b). If these assumptions are incorrect, Applicant respectfully requests that the Examiner clarify his rejection and provide such clarifications to the Applicant such that a proper response may be timely filed.

The present application is directed to an apparatus for inspecting semiconductor wafers. Specifically, a holding structure configured to hold a wafer is mounted on a rotational arm to provide a user with a means of inspecting a wafer in any position without having to physically touch the wafer. The holding structure provides a mechanism for holding the wafer and rotating the wafer about an axis that is perpendicular to the surface of

mechanism for rotating the wafer about an axis parallel to the surface of the wafer. The arm and holding structure are viewable to a user to facilitate the visual inspection of the wafer.

Conversely, Matsukawa et al. discloses a double-sided substrate cleaning apparatus. The cleaning apparatus is a fairly large system able to support a number of wafer carriers. The station further includes a plurality of wafer conveyance mechanisms and rotatable mechanisms configured to carry the wafer through various cleaning stages in the station. During the cleaning process, the wafer is not visible to a user.

Specifically, claim 1 recites an apparatus for inspecting wafers comprising, "a holding structure having members arranged to hold and rotate the substrate about a first axis, the holding structure being coupled to a rotatable member, the rotatable member configured to rotate the holding structure about a second axis different from the first axis." The Examiner states that Matsukawa et al. discloses a holding structure having members arranged to hold and rotate a substrate about a first axis. However, it is clear from the Matsukawa et al. reference that the holding structure (111a, 111b) does not facilitate rotating the substrate. While the holding structure (111a, 111b) is coupled to a rotatable member 102 which facilitates rotation of the wafer about the rotatable member 102, it is clear that the holding structure (111a, 111b) will not facilitate rotation of the substrate about another axis as is clearly recited in claim 1.

As is evident from Fig. 7 and the associated description, the holding structure (111a, 111b) includes no mechanism for rotating the wafer about an axis that is perpendicular to the surface of the wafer. To facilitate rotation in this direction, the holding structure (111a, 111b) must deposit the wafer onto the wafer support base 130 to allow the spin chuck 120 to

rotate the wafer after the holding structure (111a, 111b) has released the wafer. It is clear from Matsukawa et al., that while the wafer is in the holding structure (111a, 111b) the wafer may only be rotated about a single axis (rotatable member 102) and that rotation about another axis (such as an axis which is perpendicular to the surface of the wafer) may only be facilitated by depositing the wafer onto another mechanical structure in the system.

Accordingly, the apparatus disclosed in the Matsukawa et al. reference does not comprise a holding structure having members arranged to hold *and rotate* the substrate about a first axis, since the holding structure has no mechanism for rotating the wafer at all.

Accordingly, Applicant respectfully submits that the subject matter of claim 1 is not anticipated by Matsukawa et al., since the present claim recites elements not found in the cited reference.

With regard to claim 2, the Examiner stated that the holding structure (111a, 111b) comprises a plurality of wedge assemblies (as seen in figure) configured to rotate the substrate about the first axis. As stated above with regard to the base claim, the holding structure (111a, 111b) disclosed in the Matsukawa reference does not disclose a mechanism for rotating the wafer within the holding structure, much less disclose that the mechanism comprises a plurality of wedge assemblies as recited in claim 2. Furthermore, Applicant has reviewed the figures and has been unable to identify any elements that could be construed as wedge assemblies. If the Examiner chooses to maintain this rejection, Applicant requests that the Examiner specifically identify such elements. Accordingly, Applicant respectfully submits that the subject matter of claim 2 alone is not anticipated by Matsukawa et al., since the present claim recites elements not found in the cited reference, as well as by virtue of its dependency on allowable claim 1.

With regard to claim 6, the Examiner stated that Matsukawa et al. discloses a U-shaped structure configured to open and close about the perimeter of the substrate. Claim 6 recites an apparatus comprising *tensioning springs* configured to permit the U-shaped structure to open and close about the perimeter of the substrate. Matsukawa et al. does not disclose tensioning springs, and the Examiner does not even assert that it does. Accordingly, Applicant respectfully submits that the subject matter of claim 6 alone is not anticipated by Matsukawa et al., since the present claim recites elements not found in the cited reference, as well as by virtue of its dependency on allowable claim 1.

With regard to claim 7, the Examiner stated that Matsukawa et al. discloses the holding structure comprising two L-shaped gripping arms (111a, 111b) arranged to form a single U-shape and configured to hold the substrate substantially parallel to the gripping arms. Claim 7 recites a holding structure comprising three wedge assemblies, wherein at least one of the wedge assemblies is coupled to a motor and configured to rotate the substrate about an axis perpendicular to the surface of the substrate and extending through the axial center of the substrate. As stated with respect to claim 2 above (on which claim 7 depends), the holding structure (111a, 111b) disclosed in the Matsukawa reference does not disclose a mechanism for rotating the wafer within the holding structure, much less disclose that the mechanism comprises a plurality of wedge assemblies. Accordingly, Applicant respectfully submits that the subject matter of claim 7 alone is not anticipated by Matsukawa et al., since the present claim recites elements not found in the cited reference, as well as by virtue of its dependency on allowable claim 2 (and ultimately claim 1).

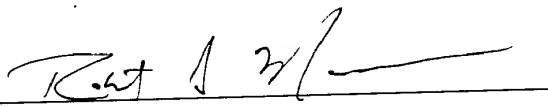
In view of the remarks set forth above, Applicant respectfully submits that the subject matter of claims 1-7 is not anticipated by Matsukawa et al. Accordingly, Applicant respectfully requests withdrawal of the Examiner's rejection and allowance of claims 1-7.

**Conclusion**

In view of the above remarks set forth above, Applicant respectfully requests allowance of claims 1-7. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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